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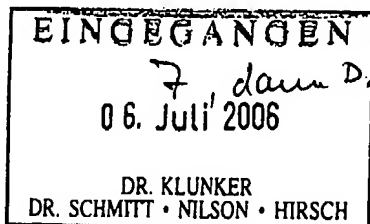
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Date

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Reference
K 67 375/7 so

Application No./Patent No.
06009674.0 - 2218



0213322 DR 1-

Applicant/Proprietor
FUJI PHOTO FILM CO., LTD.

M4 EESR weiterleiten an AG

K 67 375/7 KLU 05-08-2006

Communication



0213339 DR 1-

27 UV comments EESR

K 67 375/7 KLU 05-09-2006

The extended European search report is enclosed.

The extended European search report includes, pursuant to Rule 44a EPC, the European search report (R. 44 EPC) or the partial European search report/ declaration of no search (R. 45 EPC) and the European search opinion.

Copies of documents cited in the European search report are attached.

☒ 1 additional set(s) of copies of such documents is (are) enclosed as well.

The following have been approved:

☒ Abstract

☒ Title

☐ the Abstract was modified and the definitive text is attached to this communication.

The following figure will be published together with the abstract: NONE

Refund of the search fee

If applicable under Article 10 Rules relating to fees, a separate communication from the Receiving Section on the refund of the search fee will be sent later.





DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	PATENT ABSTRACTS OF JAPAN vol. 2000, no. 14, 5 March 2001 (2001-03-05) -& JP 2000 305141 A (OLYMPUS OPTICAL CO LTD), 2 November 2000 (2000-11-02) see also http://dossier1.ipdl.ncipi.go.jp/AIPN/aipn_call_transl.ipdl?N0000=7413&N0120=01&N2001=2&N3001=2000-305141 * abstract, Figs. 4-7, paragraphs [0032-0037] *	1-7	INV. G06T7/00
Y	GAUBATZ M ET AL: "Automatic red-eye detection and correction" ✓ PROCEEDINGS 2002 INTERNATIONAL CONFERENCE ON IMAGE PROCESSING. ICIP 2002. ROCHESTER, NY, SEPT. 22 - 25, 2002, INTERNATIONAL CONFERENCE ON IMAGE PROCESSING, NEW YORK, NY: IEEE, US, vol. 2 OF 3, 22 September 2002 (2002-09-22), pages 804-807, XP010607446 ISBN: 0-7803-7622-6 * the whole document *	1-7	TECHNICAL FIELDS SEARCHED (IPC) G06T G06K H04N
Y	US 6 009 209 A (ACKER KRISTIN ET AL) ✓ 28 December 1999 (1999-12-28) * abstract; figures 2A-D *	1-7	
Y	US 6 407 777 B1 (DELUCA MICHAEL JOSEPH) ✓ 18 June 2002 (2002-06-18) * abstract; claim 1; figures 8,9 * * column 5, line 40 - line 51 *	1-7	
Y	US 2002/109854 A1 (MURRAY THOMAS J ET AL) ✓ 15 August 2002 (2002-08-15) * paragraphs [0031], [0041], [0063] - [0067]; figures 6A,6B * ----- -/-	1-7	
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 23 June 2006	Examiner Borotschnig, H
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			



DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
Y	CAMUS T A ET AL: "Reliable and fast eye finding in close-up images" PATTERN RECOGNITION, 2002. PROCEEDINGS. 16TH INTERNATIONAL CONFERENCE ON QUEBEC CITY, QUE., CANADA 11-15 AUG. 2002, LOS ALAMITOS, CA, USA, IEEE COMPUT. SOC, US, vol. 1, 11 August 2002 (2002-08-11), pages 389-394, XP010613355 ISBN: 0-7695-1695-X * abstract, Fig. 2 *	1-7	
Y	EP 0 107 083 A (COMPUTER GESELLSCHAFT KONSTANZ MBH) 2 May 1984 (1984-05-02) * abstract, Fig. 4 *	1-7	
Y	HARO A ET AL: "DETECTING AND TRACKING EYES BY USING THEIR PHYSIOLOGICAL PROPERTIES, DYNAMICS, AND APPEARANCE" PROCEEDINGS 2000 IEEE CONFERENCE ON COMPUTER VISION AND PATTERN RECOGNITION. CVPR 2000. HILTON HEAD ISLAND, SC, JUNE 13-15, 2000, PROCEEDINGS OF THE IEEE COMPUTER CONFERENCE ON COMPUTER VISION AND PATTERN RECOGNITION, LOS ALAMITOS, CA : IEEE COMP. SO, vol. VOL. 1 OF 2, 13 June 2000 (2000-06-13), pages 163-168, XP001035597 ISBN: 0-7803-6527-5 * figures 3,4,6 *	1-7	
A	WO 01/57683 A (FLAMINI ANDREA ; LANGLOIS AMY (US); MOSS RANDY (US); PICTUREIQ CORP) 9 August 2001 (2001-08-09) * abstract; figures 14A-C *	1-7	
-/--			
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 23 June 2006	Examiner Borotschnig, H
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			



DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	PATENT ABSTRACTS OF JAPAN vol. 2000, no. 04, 31 August 2000 (2000-08-31) -& JP 2000 011140 A (FUJI PHOTO FILM CO LTD), 14 January 2000 (2000-01-14) * abstract; figure 5 *	1-7	
A	US 2002/122588 A1 (YAMAMOTO HIROYASU) 5 September 2002 (2002-09-05) * figures 5A,5B *	1-7	
			TECHNICAL FIELDS SEARCHED (IPC)
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 23 June 2006	Examiner Borotschnig, H
<div>CATEGORY OF CITED DOCUMENTS</div> <div>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</div> <div>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</div>			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 06 00 9674

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

23-06-2006

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
✓ JP 2000305141 ✓ A	02-11-2000	NONE	
✓ US 6009209 ✓ A	28-12-1999	NONE	
✓ US 6407777 ✓ B1	18-06-2002	NONE	
✓ US 2002109854 ✓ A1	15-08-2002	CN 1263285 A EP 1028351 A1 JP 2000246961 A US 6574373 B1	16-08-2000 16-08-2000 12-09-2000 03-06-2003
EP 0107083 A	02-05-1984	DE 3236100 C1	05-01-1984
✓ WO 0157683 ✓ A	09-08-2001	NONE	
JP 2000011140 A	14-01-2000	NONE	
US 2002122588 A1	05-09-2002	JP 3590265 B2 JP 11355591 A	17-11-2004 24-12-1999

**Bescheld/Protokoll (Anlage)**

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Communication/Minutes (Annex)

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Notification/Procès-verbal (Annexe)

Anmelde-Nr.:
Application No.: 06 009 674.0
Demande n°:

The examination is being carried out on the **following application documents**:

Description, Pages

1-66 as originally filed

Claims, Numbers

1-7 as originally filed

Drawings, Sheets

1/16-16/16 as originally filed

1 Reference is made to

- D1: JP2000305141 + PAJ, see also machine translation at:
http://dossier1.ipdl.ncipi.go.jp/AIPN/aipn_call_transl.ipdl?N0000=7413&N0120=01&N2001=2&N3001=2000-305141
- D2: XP-10607446
- D3: US-6 009 209
- D4: US-6 407 777
- D5: XP-1035597, Haro et al. "Detecting and Tracking Eyes.."
- D6: XP-10613355, Camus et al. "Reliable and Fast Eye Finding..."
- D7: EP-A-0 107 083
- D8: US20020109854
- D9: WO-A-01/57863
- D10: JP2000011140

**Art. 84 EPC:**

- 2 The description of this divisional application has not yet been brought into conformity with the claimed subject matter and thus partially contradicts the claimed subject matter.
- 3 The claim wording fails to cite that detection/correction/display processing is fully automatic. Only after automatic correction manual verification/undoing occurs.
- 4 The formulation "displays a list of positions at which the defect has been detected" would usually be understood to mean a list of coordinate values. However, this common interpretation of the phrase is not meant according to the application, see also pg. 9 and wording of claim 3, indicating that a "position" can be zoomed, something which is impossible for the coordinate values (indeed displaying coordinate values would also not facilitate identifying the found defects). Instead, what is done according to the application is "additionally and simultaneously visualising on said display, for all positions at which a defect has been detected and corrected by the correction section, the corresponding image portion" (Figs. 6-9). In particular, in Fig. 9 one additionally and simultaneously displays "a list of different image portions, each portion being copied from a position of the image at which the defect has been detected and corrected" (cf. Fig. 9. ref. signs 541,542,543 and their discussion).
- 5 The claims also fail to indicate that the display section "displays an image ... and *simultaneously* visualises/displays a list of" (cf again Figs. 6-9).
- 6 The claims fail make it unambiguously clear that the displaying is for positions "at which the defect has been detected *and corrected* by the correction section" as indicated in the description of the present application.

Art. 54 EPC:

- 7 Since the automatic nature of the approach is not claimed, the subject matter of present claim 1 can accidentally be read on any interactive red-eye correction



workstation in which the current working position and/or user selection for red-eye correction is additionally also visually emphasized to the user, e.g. through drawing of a frame and/or by zooming the region, cf. e.g. Fig. 5 of D10.

- 8 However, even if the essential automatic nature was claimed the subject matter of present independent claims 1 and 17 would still lack novelty w.r.t. D1 as long as it is not mentioned that displaying is for positions at which also automatic correction has taken place: note D1, abstract, Figs. 5-7 and paragraphs [0033-0037] ("blood shot eyes amendments" in machine translation=correcting the red eye defect, i.e. as long as it is not mentioned that verification happens after red eye correction not before as in D1 paragraph [0036]).
- 9 For the following it will thus be assumed that the automatic detection/ correction/ display has been cited in the claims and that it is mentioned that the automatically detected and corrected regions are displayed/highlighted.

Art. 56 EPC:

- 10 Assuming presence of the above essential features the subject matter of claims 1 and 17 would still lack an inventive step as defined in Art. 56 EPC.
- 10.1 Each one of documents D2-D4, each of which may be considered to represent the closest prior art for this objection, discloses all the features of **claim 1** (in the interpretation that detection/correction/displaying all follow consecutively and automatically) except for the following:
- "and simultaneously displays a list of positions at which the defect has been detected and corrected by the correction section" (also understood in its clarified meaning, cf. above).
- 10.2 The technical effect of this feature lies in aiding the user in manual verification / manipulation of the automatic results of D2-D4 respectively.
- 10.3 Given the well known limitations of present day systems the need for verifying and - if



need should be - manipulating (e.g. correcting) automatic detection results is ubiquitous and thus formulating the above problem does not require any inventive activities.

- 10.4 A person of ordinary skill in the applicable art (an engineer having a degree of a university or an engineering school and possessing special knowledge in the field of image processing), knowing any one of D2-D4 and faced with the cited technical problem at the date relevant for the present application, would be prompted to consult the pertinent technical literature and thereby find documents D1, D5-D8 each of which teaches independently how to facilitate user verification by displaying/highlighting the respective portion of the image. Eg. they teach displaying a circular or square frame within the image (D5 Figs. 4 and 6; D6 Fig. 2; D8 Figs. 6A and 6B and paragraphs [0063-0067] - corresponding to Figs. 6-8 of the application), or by displaying copies of the image portions to be still verified (D7, Fig. 4 or D8 *ibid.* - corresponding to Fig. 9 of the application).

Being aware of these possible solutions and having regard to the technical problem to be solved, the skilled person would wish to combine the approach of any one of D2-D4 with any one of the solutions proposed in anyone of D1, D5-D8 and thereby arrive at the claimed subject matter (i.e. at Figs. 6-9 of the application) within the framework of the technical routine work associated with the normal progress of technology. The subject matter thus lacks an inventive step over each one of the combinations D2-D4 + D1, D5-D8.

- 10.5 An alternative argument starting from D1 might also be possible, even after it would have been made clear that the application is directed at verification *after* correction: starting from D1 the difference would then lie in that D1 does not yet teach verification after correction because D1 teaches verification after detection. The technical problem would again be to provide further/full user verification possibilities. The need for verifying also an automatic correction process is evident: even if the position of the red eye has been found the automated color conversion processing during automatic correction can clearly introduce new errors, e.g. spilling of colours into unwanted areas ("overcorrection" etc.). The skilled person faced with the problem of providing full verification possibilities would thus consider also allowing for



verifying the correction result before issuing definite output images.

10.6 The same objections apply to the subject matter of **claim 7** for corresponding reasons.

10.7 The subject matter of claims 2-6 also lacks an inventive step (Art. 56 EPC) for the above reasons. In particular:

10.7.1 As for the prioritizing of **claim 2**: it is well known that many detection systems usually obtain different degrees of confidence into their detection results, e.g. if detection is based on probabilistic reasoning this degree of confidence will be reflected by the obtained probability for red eyes. Since manual intervention is cumbersome it would be clearly obvious to provide verification displays only for those areas that are most likely in need for correction. If one reads "confidence" on "priority" this means that automatically only "high priority" regions will be presented and the subject matter of claim 2 thus lacks an inventive step in view of the arguments provided for claim 1 and in view of common general knowledge.

For a concrete example of this common general knowledge, cf. e.g. the "redness" of D2 as an indicator for "priority". The need to finally make a binary decision between red-eye/no red-eye also entails a need to "threshold" the "priority" (cf. e.g. also D2, section 5 teaching thresholding for finding "excessively red" areas). Hence, according to D2 one will automatically only display those regions which have a high enough "priority" of being in need for correction.

Similarly, it would be known from D5 to display only the regions that are quite likely in need of manual intervention, e.g. it is known to eliminate candidates and to let only probable candidates survive.

In any case, each of the cited possible combinations of documents leads to the claimed subject matter either directly, or by additionally taking into account common general knowledge.



- 10.7.2 Taking into account the following additional considerations, the above analysis of claim 1 also applies to the subject matter of **claim 3**:

Claim 3 teaches in addition the zooming of one, e.g. the currently corrected, candidate region.

Being aware of the fact that e.g. D4 teaches an electronic camera and that displays of such cameras are usually not greater than palm-sized the need for zooming the image data while manually correcting the image is immediately apparent to the skilled person.

Moreover, it is generally known in the art to zoom image areas to facilitate interactive editing, even for much larger PC-screen sized displays, such as e.g. in D9 Figs. 14B-C or D10 Fig. 5 (both merely cited at this point to provide some examples for this type of common general knowledge).

- 10.7.3 The subject matter of **claim 4** - if it were not already known from D1 - would still be immediately evident once the problem of implementing user verification has been posed because it is clear right from the start that an automatic system can also fail in the detecting and correcting step in which case manual undoing of that operation is needed.
- 10.7.4 The subject matter of **claim 5** is known from any one of D1, D5-D8 in which the area is visually emphasized by drawing a frame around it (D5-D6), or by copying it to another area such as the bottom line (Fig. 4 of D7 or Figs. 6A and 6B of D8) or by an icon (D8, paragraph [0064]).
- 10.7.5 The subject matter of **claim 6** is known from each of D1-D6, D8.

Further Matter

- 11 If the applicant should find certain details of the application to be patentable the applicant is invited to file a new set of claims taking into account the above objections.



Bescheid/Protokoll (Anlage)

Communication/Minutes (Annex)

Notification/Procès-verbal (Annexe)

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Anmelde-Nr.:
Application No.: 06 009 674.0
Demande n°:

- 11.1 Care should be taken not to exceed the allowed number of independent claims.
- 11.2 Independent claims should be drafted in two-part form unless such an approach would lead to clumsy formulations e.g. because it does not fit into natural order of processing (Rule 29(1) EPC).
- 11.3 The closest prior art should be acknowledged and its relevant content should be discussed in the opening part of the description (Rule 27(1)(c)EPC).
- 11.4 Reference signs in parentheses should be inserted in the claims (R. 29(7) EPC).
- 11.5 When filing amended claims the applicant should at the same time bring the description into conformity with the amended claims. Care should be taken during revision not to add subject matter which extends beyond the application as originally filed (Art. 123(2) EPC).
- 11.6 In order to facilitate the examination of the conformity of the amended application with the requirements of Art. 123(2) EPC the applicant is requested to clearly identify the amendments carried out and to indicate the passages of the application as filed on which these amendments are based (GL E-II-1).